

Problem of the Week, Fall 2006 7 September 2006

Circle One: Cadet

Last Name (Please Print): Fischer

Problem 1

Alice, Jane, Kathy, and Bob took an unannounced quiz during their mathematics class. The quiz comprised 10 True-False questions. Each problem is worth 10 points, and the spreadsheet below shows the answers that the cadets provided and their scores. Based on their answers and scores (with the exception of Bob), what is Bob's quiz score? Explain in detail to receive full credit.

	1	2	3	4	5	6	7	8	9	10	Score
Alice	T	F	T	F	T	T	F	F	F	T	70
Jane	T	T	F	F	F	T	T	T	F	F	70
Kathy	F	F	F	T	T	F	T	F	T	F	60
Bob	T	T	F	F	T	F	T	F	F	F	???

Bob's score was 80

1. Alice and Jane were each incorrect on 3 problems, so the most questions they could have answered differently is 6 (if each was wrong on a different 3). Alice and Jane did differ on 6 answers.
2. Alice and Jane's remaining 4 answers must be correct.
3. Kathy differed from Alice and Jane on all 4 known correct answers, and therefore answered all other questions correctly.
4. All 10 correct answers are known (T F F F T T T F F F)
5. Bob answered 8 correctly; his score was 80.